PANDEMIC INFLUENZA U•P•D•A•T•E

Public Health Prepares

November 23, 2005

Fast Facts

Influenza pandemics involve the rapid spread of a novel (most people have no immunity against it) influenza virus across the world, resulting in an unusually high number of illnesses and deaths for approximately 2 to 3 years. Such pandemics occurred in 1918, 1957, and 1968.

At times, false alarms do occur where a novel influenza virus emerges that causes a few human cases of severe illness or death, but never succeeds in causing widespread human illness. Scientists can monitor these viruses, but can't predict the outcome.

It is impossible to know whether the currently spreading influenza type A (H5N1) virus will cause a human pandemic.

If You Are Asked . . .

"What can I do now to prepare my family for pandemic influenza?"

Answer: First, the world's public health community is on alert and watching the avian influenza type A H5N1 virus (known as the bird flu) carefully. Right now no influenza virus qualifies as a pandemic virus, including H5N1. While scientists are watching the H5N1 virus, they must also look for other influenza viruses that could change to become a threat to human health, and possibly qualify as a pandemic influenza virus.

Still, it's good to be concerned about emergency preparedness. If a pandemic influenza outbreak were to occur in your community, schools and business could be closed. Plan ahead for situations in which you might have to take care of yourself and your family without leaving home. Think about essential supplies like food and medicine.

Influenza viruses spread easily, including seasonal influenza. Handwashing and cough etiquette reduce the chances of becoming ill. Teach your children how to wash their hands to protect them from viruses that cause influenza and colds. For more on handwashing and cough etiquette, check www.cdc.gov/cleanhands and www.cdc.gov/flu/protect/covercough.htm.

The more you know about pandemic influenza the more you can help your family and community to prepare. To find out more and keep updated regularly, check www.pandemicflu.gov.

Public Health Prepares . . .

Although the timing, nature and severity of the next pandemic cannot be predicted with any certainty, an influenza pandemic has the potential to cause more death and illness than any other public health threat. This makes a pandemic a unique circumstance requiring a strategy that extends well beyond health and medical boundaries. It will also include the sustainment of critical infrastructure, private-sector activities, the movement of goods and services across the nation and the globe, and economic and security considerations.

The National Strategy for Pandemic Influenza guides the nation's preparedness and response to an influenza pandemic, with the intent of (1) stopping, slowing or otherwise limiting the spread of a pandemic to the United States; (2) limiting the domestic spread of a pandemic, and mitigating disease, suffering and death; and (3) sustaining infrastructure and mitigating impact to the economy and the functioning of society. The three pillars of the national strategy are:

- **Preparedness and Communication**: Activities that should be undertaken before a pandemic to ensure preparedness, and the communication of roles and responsibilities to all levels of government, segments of society and individuals.
- **Surveillance and Detection**: Domestic and international systems that provide continuous "situational awareness," to ensure the earliest warning possible to protect the population.
- **Response and Containment**: Actions to limit the spread of the outbreak and to mitigate the health, social and economic impacts of a pandemic.

The CDC has important roles in all three areas. CDC is involved in the following critical activities:

- Conducts and supports clinical and virological influenza surveillance.
- Monitors pandemic health impacts.
- Implements travel-related and community containment measures as necessary to prevent the introduction, transmission, and spread of pandemic disease from foreign countries into the United States, from state to state or in the event of inadequate local control.
- Coordinates pandemic response activities with state, local and tribal public health agencies.
- Investigates epidemiology and clinical characteristics of pandemic disease.
- Assists in vaccination program implementation and in monitoring and investigating vaccine adverse events.
- Assesses vaccine effectiveness in population-based studies.
- Coordinates antiviral and other drug delivery from the Strategic National Stockpile.
- Monitors antiviral drug use, effectiveness, safety, and resistance.
- Monitors the implementation/effectiveness of protective public health measures.
- Recommends and evaluates community measures to prevent and control disease.
- Makes recommendations on diagnosis and management of influenza illness.
- Makes recommendations on appropriate infection control recommendations.
- Communicates with state and local health departments and other public health partners.
- Maintains close communication with drug and vaccine manufacturers.

Future issues of this newsletter will be giving updates on these activities. For more information now please link to: www.pandemicflu.gov.

Update on H5N1: Global Activity Humans and Birds

Humans: During recent outbreaks since 2004, of the 130 confirmed cases in humans and 67 deaths, they occurred in the following nations and involved people in contact with sick birds: Vietnam 92 cases and 42 deaths; Thailand 21 cases and 13 deaths; China 2 cases and 1 death; Indonesia 11 cases and 7 deaths; and Cambodia 4 cases and 4 deaths.

Birds: From January 2004 through October 14, 2005, active outbreaks among birds has been confirmed in Vietnam, Thailand, Indonesia, China, Cambodia, Russia, Kazakhstan, Mongolia, Turkey, Romania and Croatia. South Korea and Japan have had no active outbreaks since March 2004.

For the most recent reports, please go to the following link: www.who.int/csr/outbreaknetwork/en/

CDC Recommends . . .

Business Preparedness Checklist

Influenza pandemics are different from many of the threats for which public health and health-care systems are currently planning:

- A pandemic will last much longer than most public health emergencies and may include "waves" of influenza activity separated by months (in 20th century pandemics, a second wave of influenza activity occurred 3 to 12 months after the first wave).
- The numbers of health-care workers and first responders available to work can be expected to be reduced. They will be at high risk of illness through exposure in the community and in health-care settings, and some may have to miss work to care for ill family members.

- Resources in many locations could be limited, depending on the severity and spread of an influenza pandemic.

The private sector represents an essential pillar of U.S. society because of the essential goods and services that it provides. Moreover, it touches the majority of the U.S. population on a daily basis, through an employer-employee or vendor-customer relationship. For these reasons, it is essential that the U.S. private sector be engaged in all preparedness and response activities for a pandemic by:

- Establishing an ethic of infection control in the workplace that is reinforced during the annual influenza season, to include, if possible, options for working offsite while ill, systems to reduce infection transmission, and worker education.
- Establishing contingency systems to maintain delivery of essential goods and services during times of significant and sustained worker absenteeism.
- Where possible, establishing mechanisms to allow workers to provide services from home if public health officials advise against non-essential travel outside the home.
- Establishing partnerships with other members of the sector to provide mutual support and maintenance of essential services during a pandemic.

Because of these differences and the expected size of an influenza pandemic, it is important to plan preparedness activities now. The CDC has created a preparedness checklist for business as an initial planning tool which will be available soon at this site: www.cdc.gov/business.

Pass this on . . .

1918 Pandemic Influenza Virus Declared a Select Agent

On Oct. 20, 2005, CDC published in the Federal Register an interim rule declaring the strain of influenza responsible for the 1918 pandemic as a select agent. This action follows recent work done by CDC scientists to successfully reconstruct the 1918 virus in hopes of better understanding it. The virus was reconstructed to aid public health officials in preparing for the possibility of another pandemic of influenza. It will also be helpful to biomedical scientists as they seek to understand what made the virus so harmful and to develop better antiviral drugs and influenza vaccines.

Under provisions outlined in the interim rule, all entities (e.g., scientists and researchers) that possess, use or transfer the 1918 strain of influenza or the eight key gene regions of the 1918 virus are required to register with the CDC. People, labs, and other facilities that work with select agents are required to ensure that they can safely handle the virus as outlined in the CDC/NIH Biosafety in Microbiological and Biomedical Laboratories, 4th edition. In addition, they are required to increase safeguards and security measures for the virus, including controlling access, screening personnel, and maintaining records to be included in a national database with records from others registered. The Act imposes criminal and civil penalties for inappropriate use of select agents and toxins.
www.cdc.gov/od/oc/media/pressrel/r051020.htm

Stages of an Influenza Pandemic

The World Health Organization defines the six stages of a pandemic. The world is currently at Pandemic Alert Phase 3. The phases are:

Interpandemic period

Phase 1: No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animals, the risk of human infection or disease is considered to be low.

Phase 2: No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk of human disease.

The distinction between phases 1 and 2 is based on the risk of human infection or disease resulting from circulating strains in animals. The distinction is based on various factors and their relative importance according to current scientific knowledge. Factors may include pathogenicity in animals and humans, occurrence in domesticated animals and livestock or only in wildlife, whether the virus is enzootic or epizootic, geographically localized or widespread, and other scientific parameters.

Pandemic alert period

Phase 3: Human infection(s) with a new subtype, but no human-to-human spread, or at most rare instances of spread to a close contact.

Phase 4: Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans.

Phase 5: Larger cluster(s) but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans but may not yet be fully transmissible (substantial pandemic risk).

The distinction among phases 3 and 4 is based on an assessment of the risk of a pandemic. Various factors and their relative importance according to current scientific knowledge may be considered. Factors may include rate of transmission, geographical location and spread, severity of illness, presence of genes from human strains (if derived from an animal strain), and other scientific parameters.

Pandemic period

Phase 6: Pandemic: increased and sustained transmission in general population.
www.cdc.gov/flu/avian/gen-info/pandemics.htm

Where to Find Out More . . .

The American Veterinary Medical Association website has information available on avian influenza, canine influenza, equine influenza and, shortly, they will be posting information that addresses influenza in swine. These resources are accessible from the influenza pages on the AVMA Web site (main influenza page is at www.avma.org/public_health/influenza/default.asp).

The national website for information and updates about pandemic influenza is: www.pandemicflu.gov.

More Fast Facts (Week of Nov. 14)

- CDC website activity: 478,000 (700,000+, week before)
- CDC Public inquiries (toll-free information line): 58 (169, week before)

Pandemic Influenza Update: Reader's Feedback

The twice-monthly Pandemic Influenza Update is prepared by CDC's Priority Communication System. Information in this newsletter is time sensitive and evolving. Readers are welcome to comment by email to: PANUPDATE@CDC.GOV